

23. (New) Contrast agent injection system for injecting a contrast agent into a body, having at least a first injector (1) for delivering the contrast agent to a tube (9) connected to the body, and having at least a second injector (2) for delivering a rinsing fluid to the tube (9), characterised by a control device (16) being arranged independently from said first injector (1), wherein said control device (16) is connected with its output to said second injector (2) for controlling said second injector (2), that the control device (16) is connected with its input to a detection device (20) which detects an optical signal from said first injector (1) as a result of the interruption of the injection of said first injector (1), wherein the first injector (1) comprises a device (18) for producing a status display as an optical signal such that the control device (16) activates the second injector (2) when said detection device (20) detects the interruption of the injection of the fluid flow in the tube section (7a) which is connected to said first injector (1).

24. (New) Contrast agent injection system according to Claim 22 characterised in that the fluid flow sensing device (14) has a light-emitting unit and a light-receiving unit for sensing the light reflection caused by the fluid particles.

25. (New) Contrast agent injection system according to Claim 24 characterised in that the sensing device (14) has a sound-emitting unit and a sound-receiving unit for sensing the sound frequency shift caused by the moving fluid particles.

26. (New) Contrast agent injection system according to claim 22, characterised in that the control device (16) is connected to a contrast agent volume calculating device (24).

27. (New) Contrast agent injection system according to Claim 26 characterised in that the contrast agent volume calculating device (24) has a contrast agent volume memory device in which the contrast agent volume located in the first injector (1) is stored.

28. Contrast agent injection system according to claim 22, characterised in that the control device (16) is connected to a contrast agent injection time calculating device (22).

29. (New) Contrast agent injection system according to Claim 28, characterised in that the contrast agent injection time calculating device (22) has a contrast agent injection time memory device in which the contrast agent injection time is stored.

30. (New) Contrast agent injection system according to claim 22, characterised in that the control device (16) is connected to an input device (26) for inputting the contrast agent volume and the contrast agent injection time.

31. (New) Contrast agent injection system according to claim 22, characterised in that the first injector (1) and the second injector (2) are connected via an adapter (7) to a tube (9) which is connected to the body.

32. (New) Contrast agent injection system according to Claim 31, characterised in that valves (10, 11) are provided for filling the injectors (1, 2).

33. (New) Contrast agent injection system according to Claim 32, characterised in that the valves (10, 11) can be controlled via the control device (16).

34. (New) Contrast agent injection system according to claim 22, characterised in that the injectors (1, 2) are single-piston or multipiston injectors.

35. (New) Contrast agent injection system according to claim 22, characterised in that interchangeable pressure syringes (3, 4) can be held by the injectors (1, 2) in mounting openings (27, 28).

36. (New) Contrast agent injection system according to Claim 35, characterised in that the mounting openings (27, 28) have different mounting openings corresponding to the associated pressure syringes (3, 4).